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ORIGINALLY FILED

Docket No. 2000-022R1  
**PATENT**

CERTIFICATE OF MAILING

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on ~~7/16/02~~ 7/18/02

BY:

*Suzanne Shadley*  
Suzanne Shadley

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Bergh et al.

Serial No.: 09/801, 390

Group Art Unit: 1764

Filed: March 8, 2001

For: Parallel Flow Process Optimization  
Reactor

Examiner: Unknown

Assistant Commissioner for Patents  
Washington, D.C. 20231

TRANSMITTAL LETTER

Sir:

Transmitted herewith (check all that apply):

- |  |  |
|--|--|
| <input type="checkbox"/> Preliminary Amendment             | <input type="checkbox"/> Supplemental Information Disclosure Statement |
| <input type="checkbox"/> Response/Amendment                | <input type="checkbox"/> Petition Under 37 CFR 1.97(d)(2)              |
| <input type="checkbox"/> Response/Amendment After Final    | <input type="checkbox"/> Formal Drawings                               |
| <input type="checkbox"/> Supplemental Amendment            | <input type="checkbox"/> Declaration Under 37 CFR 1.131                |
| <input type="checkbox"/> Affidavits/Declarations           | <input type="checkbox"/> Declaration Under 37 CFR 1.132                |
| <input type="checkbox"/> Declaration and Power of Attorney | <input type="checkbox"/> Terminal Disclaimer                           |
| <input type="checkbox"/> Supplemental Declaration          | <input type="checkbox"/> Small Entity Statement                        |
| <input type="checkbox"/> Associate Power of Attorney       | <input type="checkbox"/> Request for Refund                            |
| <input type="checkbox"/> Change of Correspondence Address  | <input type="checkbox"/> Appeal  |
| <input type="checkbox"/> Associate Power of Attorney       | <input checked="" type="checkbox"/> Request to Correct Filing Receipt  |

to be filed in the above-identified patent application.

☒ No fee is required.

☒ The Commissioner is hereby authorized to charge payment of any additional filing fees required under 37 C.F.R. § 1.16, in connection with the paper(s) transmitted herewith, or credit any overpayment of same, to Deposit Account No. 50-0496.

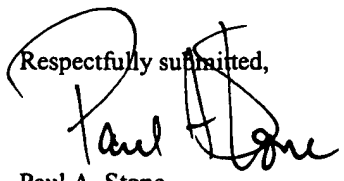
A duplicate copy of this Transmittal Letter is transmitted herewith.

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AUG 15 2002  
TC 1700

Date: May 27, 2002

Symyx Technologies, Inc.  
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Santa Clara, California 95051  
Tel.: (408) 773-4027  
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Respectfully submitted,

  
Paul A. Stone  
Reg. No. 38,628  
Attorney for Applicant(s)



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Docket N . 2000-022R1  
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CERTIFICATE OF MAILING

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BY:

*Suzanne Shadley*  
Suzanne Shadley

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Bergh et al.

Serial No.: 09/801, 390

Group Art Unit: 1764

Filed: March 7, 2001

For: Parallel Flow Process Optimization  
Reactor

Examiner: Unknown

Assistant Commissioner for Patents  
Washington, DC 20231  
ATTN: Office of Initial Patent Examination's  
Customer Service Center

REQUEST FOR CORRECTED OFFICIAL FILING RECEIPT

Dear Sir:

Attached is a copy of the Updated Official Filing Receipt received from the PTO in the above application for which issuance of a corrected filing receipt is respectfully requested.

There is an error with respect to the Title, which currently reads:

**Parallel Flow Process Optimization Reactors**

and which should be as follows:

**Parallel Flow Process Optimization Reactor**

A copy of the executed Declaration and the first page of the patent application indicating the correct title are enclosed. Both documents have been submitted at filing and are merely enclosed for your convenience.

The Applicant's believe that no fee is due, however, The Examiner is authorized to charge any fees to Deposit Account due to Account No. 50-0496.

Dated: May 27, 2002

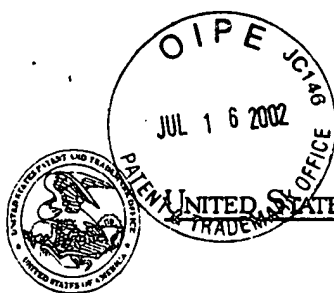
Respectfully Submitted,

*Paul A. Stone*  
Paul A. Stone  
Registration No. 38,628

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APPLICATION NUMBER	FILING DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	DRAWINGS	TOT CLAIMS	IND CLAIMS
09/801,390	03/07/2001	~ 1764	2273	2000-022	47	190	5

CONFIRMATION NO. 4042

22905  
SYMYX TECHNOLOGIES INC  
LEGAL DEPARTMENT  
3100 CENTRAL EXPRESS  
SANTA CLARA, CA 95051

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NOV 26 2001

Symyx Technologies  
Legal Department

UPDATED FILING RECEIPT



\*OC000000007096202\*

Date Mailed: 11/20/2001

Receipt is acknowledged of this nonprovisional Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Customer Service Center. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).

**Applicant(s)**

H. Sam Bergh, San Francisco, CA;  
James R. Engstrom, Ithaca, NY;  
Shenheng Guan, Palo Alto, CA;  
Daniel Meron Pinkas, Alameda, CA;  
Kyle W. Self, San Jose, CA;

**Domestic Priority data as claimed by applicant**

THIS APPLN CLAIMS BENEFIT OF 60/187,566 03/07/2000  
AND CLAIMS BENEFIT OF 60/229,984 09/02/2000  
AND A CIP OF 09/518,794 03/03/2000  
WHICH CLAIMS BENEFIT OF 60/122,704 03/03/1999

**Foreign Applications**

If Required, Foreign Filing License Granted 07/11/2001

Projected Publication Date: 02/28/2002

Non-Publication Request: No

Early Publication Request: No

\*\* SMALL ENTITY \*\*

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**Title**Parallel flow process optimization ~~reactors~~ *Reactor***Preliminary Class**

422

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Title 35, United States Code, Section 184  
Title 37, Code of Federal Regulations, 5.11 & 5.15**

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**NOT GRANTED**

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).



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Bib Data Sheet

CONFIRMATION NO. 4042

<b>SERIAL NUMBER</b> 09/801,390	<b>FILING DATE</b> 03/07/2001 <b>RULE</b>	<b>CLASS</b> 422	<b>GROUP ART UNIT</b> 1764	<b>ATTORNEY DOCKET NO.</b> 2000-022
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## APPLICANTS

H. Sam Bergh, San Francisco, CA;  
James R. Engstrom, Ithaca, NY;  
Shenheng Guan, Palo Alto, CA;  
Daniel Meron Pinkas, Alameda, CA;  
Kyle W. Self, San Jose, CA;

## \*\* CONTINUING DATA \*\*\*\*\*

THIS APPLN CLAIMS BENEFIT OF 60/187,566 03/07/2000  
AND CLAIMS BENEFIT OF 60/229,984 09/02/2000  
AND IS A CIP OF 09/518,794 03/03/2000  
WHICH CLAIMS BENEFIT OF 60/122,704 03/03/1999

## \*\* FOREIGN APPLICATIONS \*\*\*\*\*

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\*\* 07/11/2001

Foreign Priority claimed <input type="checkbox"/> yes <input type="checkbox"/> no	STATE OR COUNTRY CA	SHEETS DRAWING 47	TOTAL CLAIMS 190	INDEPENDENT CLAIMS 5
35 USC 119 (a-d) conditions met <input type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> Met after Allowance				
Verified and Acknowledged	Examiner's Signature	Initials		

## ADDRESS

22905

## TITLE

Parallel flow process optimization reactor

<b>FILING FEE RECEIVED</b> 2273	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:	<input type="checkbox"/> All Fees
		<input type="checkbox"/> 1.16 Fees ( Filing )
		<input type="checkbox"/> 1.17 Fees ( Processing Ext. of time )
		<input type="checkbox"/> 1.18 Fees ( Issue )
		<input type="checkbox"/> Other _____
		<input type="checkbox"/> Credit



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Symyx Docket No: 2000-022

## PARALLEL FLOW PROCESS OPTIMIZATION REACTOR

5 [0001] This application is a continuation-in-part of co-owned, co-pending U.S. patent application Ser. No. 09/518,794, entitled "Chemical Processing Microsystems, Diffusion-Mixed Microreactors and Methods for Preparing and Using Same", filed March 3, 2000 by Bergh *et al.*. The present invention is also related to, and claims priority to co-owned, co-pending U.S. patent application Ser. No. 60/187,566 entitled "Apparatus and Methods for Multi-Variable Optimization of Reaction Systems and Other Chemical Processing  
10 Microsystems", filed March 7, 2000 by Bergh *et al.*, and to co-owned, co-pending U.S. patent application Ser. No. 60/229,984 entitled "Apparatus and Methods for Optimization of Process Variables in Reaction Systems and Other Chemical Processing Systems", filed September 2, 2001 by Bergh *et al.*

15

### BACKGROUND OF INVENTION

[0002] The present invention generally relates to materials science research, and specifically, to combinatorial (*i.e.*, high throughput) materials science research directed toward the identification and/or optimization of new materials. The invention  
20 particularly relates, in preferred embodiments, to apparatus and methods for optimizing chemical reaction systems, such as chemical reaction systems involving heterogeneous catalysts.

[0003] In recent years, significant efforts have been extended toward developing parallel systems, such as parallel reactors, for the purpose of screening different materials, such as  
25 heterogeneous catalysts, for particular properties of interest, such as catalysis. U.S. Patent No. 5,985,356 to Schultz *et al.* discloses synthesis and screening arrays of materials in parallel for catalysis, and U.S. Patent No. 6,063,633 to Willson discloses parallel flow reactors, and parallel screening techniques (*e.g.*, thermography, chromatography, *etc.*) for evaluating catalysis. A substantial portion of such effort has,  
30 however, focussed on apparatus and methods for evaluating compositional space of the materials (*e.g.*, heterogeneous catalysts) of interest, while only a relatively small portion of such effort has been directed toward apparatus and methods for evaluating other parameter spaces – in addition to compositional space. More specifically for example, in

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